UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/411,515	10/04/1999	CHUN-SHI CHANG	PO9-99-067	8417

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EXAMINER
MIRZA, ADNAN M

ART UNIT	PAPER NUMBER
2141	

DATE MAILED: 10/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 July 2002* .

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-52* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-52* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2.   Claims 1,18,5,22,40,8,25,43,10,27,45,11,28,46,12,29,47,13,30,48,15,32,50 are rejected

under 35 U.S.C. 103(a) as being unpatentable over Budde et al (U.S. 4,503,535) in view of

Fischer et al (U.S. 5001,472).

As per Claim 1, Budde taught a method of reconfiguring a network having a plurality of nodes to

reflect a change in topology of said network, said method comprising: upon receiving

a reconfiguration request at one node of said plurality of nodes, entering quiescent state for a

predetermined period of time sufficient to allow at least one other node of said plurality of nodes

to also enter a quiescent state (Fig. 2, col. 14, lines 14-30);

However Budde failed to disclose change in topology of the network without conforming from

its neighboring node. In the same field of endeavor, Fischer taught upon termination of said

quiescent state at said one node, reconfiguring said one node to reflect said change in topology of

said network without checking with said at least one other node (col. 11, lines 1-29).

It would have been obvious to one having ordinary skill in the art at the time the invention was

made to have incorporated the change in the topology of the network without conforming from

its neighbor node as taught by Fischer in reconfiguring network of Budde to increase the efficiency of the network by reducing the dependency of the nodes on each other.

As per claim 18, Budde taught a system for reconfiguring a network having a plurality of nodes to reflect a change in topology of said network, said system comprising: means for entering a reconfiguration request at one node of said plurality of nodes, a quiescent state at said one node, wherein said one node remains in quiescent state for a predetermined period of time sufficient to allow at least one other node of said plurality of nodes to also enter a quiescent state (Fig. 2, col. 14, lines 14-30);

However Budde failed to disclose change in topology of the network without conforming from its neighboring node. In the same field of endeavor, Fischer taught means for reconfiguring, upon termination of said quiescent state at said one node, said one node to reflect said change in topology of said network, without checking with said at least one other node (col. 11, lines 1-29).

3.   As per claims 5,22,40, Budde-Fischer taught wherein said predetermined period of time comprises an amount of time sufficient for a protocol currently running on said network to perform a predetermined number of retries plus a predetermined amount of time between each retry, wherein after attempting said predetermined number of retries, said protocol completes execution (Budde, col. 15, lines 50-67).

4.   As per claims 8, 25, 43, Budde-Fischer taught wherein said reconfiguring said one node comprises refraining from observing said change in topology at said one node during a grace period, wherein said grace period comprises a predetermined period of time sufficient to allow said at least one other node of said plurality of nodes to exit a quiescent state, and upon

termination of said grace period, observing said change in topology at said one node (Fischer, col. 11, lines 1-29).

5.   As per claims 10, 27, 45, Budde-Fischer where said reconfiguration request results from a change in address of a node of said network (Fischer, col. 11, lines 25-29).

6.   As per claims 11, 28, 46, Budde-Fischer taught wherein said network is reconfigured without interrupting currently executing protocols (Budde, col. 18, lines 15-36).

7.   As per claims 12, 29, 47, Budde-Fischer taught wherein said network is reconfigured without a global synchronization protocol (Budde, col. 14, lines 18-30).

8.   As per claims 13, 30, 48, Budde-Fischer taught further comprising transmitting, upon entering said quiescent state, a reconfiguration request causes said at least one other node to enter a quiescent state (Budde, col. 18, lines 27-35).

9.   As per claims 15,32,50, Budde-Fischer taught wherein said network comprises a plurality of interconnected computing networks together implementing a distributed node and adapter status monitoring system (Fischer, col. 11, lines 65-67 & col. 12, lines 1-15).

10.   Claims 35,36,2,19,37,3,20,38,7,24,42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Budde et al (U.S. 4,503,535) in view of Fischer et al (U.S. 5001,472) as applied to claim 1 and further in view of Brown et al. (U.S. 4,860, 284).

As per claim 35 Budde-Fischer taught a system for reconfiguring a network having a plurality of nodes to reflect a change in topology of said network, said system comprising: a computing node capable of entering, upon receiving a reconfiguration request at one node of said plurality of nodes, a quiescent state at said one node (Fischer, Fig. 3, element 60, col. 12, lines 1-16), wherein said one node remains in said quiescent state for a predetermined period of time

sufficient to allow at least one other node of said plurality of nodes to also enter a quiescent state

(Fischer, col. 11, lines 1-29);

However Budde-Fisher failed to disclose a reconfiguring of node upon termination of quiescent

state. In the same field of endeavor Brown taught a computing node further being capable of

reconfiguring, upon termination of said quiescent state at said one node, said one node to reflect

said change in topology of said network with out checking with at least one other node (col. 7,

lines 35-43 & col.7, lines 1-14).

It would have been obvious to one having ordinary skill in the art at the time the invention was

made to have incorporated a reconfiguring of the node upon termination of the quiescent state as

taught by Brown in the system for reconfiguring network of Budde-Fischer to increase the

efficiency of the network by reducing the cost.

11.   As per claim 36 Budde-Fischer-Brown taught an article of manufacture comprising: a

computer useable medium having computer readable program code means embodied therein for

reconfiguring a network having a plurality of nodes to reflect a change in topology of said

network (Budde, col. 14, lines11-44); and computer readable program code mean for entering,

upon receiving a reconfiguration request at one node of said plurality of nodes, a quiescent state

for a predetermined of time sufficient to allow at least one other node of said plurality of nodes

to also enter a quiescent state (Fischer, col. 11, lines 1-29). Computer readable program code

means for reconfiguring, upon termination of said quiescent state at said one node, said one node

to reflect said change in topology of said network with out checking with at least one other node

(Brown, fig. 2, col. 7, lines 1-17).

12.   As per claims 2,19,37, Budde-Fischer-Brown taught wherein said predetermined period

of time comprises an amount of time sufficient to transmit a reconfiguration request from said

one node to said at least one other node, wherein receipt of said reconfiguration request causes

said at least one other node to enter a quiescent state (Brown, Fig. 1, element 18, col. 6, lines 65-

67 & col. 7, lines 1-15).

13.   As per claims 3,20,38, Budde-Fischer-Brown taught wherein said predetermined period

of time comprises an amount of time sufficient for protocol running on said network to complete

execution (Fischer, col. 11, lines 30-35).

As per claims 7, 24, 42, Brown wherein said reconfiguring said one node occurs without any

communication to said node from said at least one other node of said plurality of nodes (col. 7,

lines 1-17).

14.   Claims 4,21,39,6,23,41,9,26,44,14,31,49,16,35,51,17,34,52, are rejected under 35

U.S.C. 103(a) as being unpatentable over Budde et al (U.S. 4,503,535) in view of Fischer et al

(U.S. 5001,472), Brown et al. (U.S. 4,860, 284) and further in view of Moiin et al (U.S.

6,192,483).

As per claims 4, 21, 39, Budde-Fischer-Brown failed to disclose a heartbeat or node reachability

protocol. In the same field of endeavor Moiin taught wherein said protocols comprise one of a

heartbeat, join, death, or node reachability protocol (col. 8, lines 25-47)

It would have been obvious to one having ordinary skill in the art at the time of the invention

was made to have incorporated the heartbeat or node reachability protocol as taught by Moiin in

the reconfiguring network of Budde-Fischer-Brown to increase the efficiency of trouble shooting

of the network.

15.   As per claims 6, 23, 41, Moiin taught wherein said protocol comprises one of a heartbeat,

join, death, or node reachability protocol (Moiin, col. 8, lines 26-47).

16.   As per claims 9, 26, 44, Moiin taught wherein said reconfiguration request results from

addition or removal of a node or at least one other network to said network (Fig. 2, col. 5, lines

26-54).

17.   As per claims 14,31,49, Moiin taught wherein said reconfiguration request comprises one

of a message having a reconfiguration sequence identifier and a message having a configuration

sequence identifier different from a configuration identifier of said one node (col. 8, lines 30-47).

18.   As per claims 16,33,51 Moiin taught further comprising preventing by said node when in

said quiescent state, execution of new protocols by ignoring proclaim, join, node, connectivity

and group connectivity messages and by no longer monitoring heartbeat messages (col. 8, lines

25-47).

19.   As per claims 17, 34, 52, Moiin taught further comprising transmitting, by said node

when in said quiescent state, proclaim heartbeat, node connectivity, and group connectivity

message with a reconfiguration sequence identifier to propagate reconfiguration requests to said

at least one other node (col. 8, lines 25-47).

20.   The following are the applicant's arguments:

a) Applicant argues that Budde fails to teach or suggest applicants'claimed feature of entering a

quiescent state at a node, upon receiving a reconfiguration request at the node, wherein the node

remains in the quiescent state for a predetermined period of time sufficient to allow at least other

node to enter the quiescent state.

b) Next applicant argues that Budde fails to teach or suggest applicants'claimed element of upon termination of the quiescent state, reconfiguring the node to reflect the change in topology of the network with out checking the at least one other node.

c) Applicant also argues that Fischer reconfiguration takes place when there is inactivity, not after it ends.

d) Applicant also argues that in Fischer fails to teach of a node remaining in quiescent state for a predetermined period of time sufficient to allow at least one other node of the plurality of nodes to also enter a quiescent state. Also in Fisher reconfiguring a node to reflect the change in topology, upon termination of the quiescent state.

e) Applicant argues that Brown fails to describe, teach or suggest use of a quiescent state in reconfiguring.

21.   The following is the response to the above arguments.

1) As to argument (a) Budde uses the word "waiting period" (col. 14, lines 14-30) which can be easily interpreted as quiescent state. The quiescent state is very broad word. Also node can be represented as resource. Examiner as a veteran of networking art with five years working experience in the industry considers the independent claims very broad. In Budde one resource is down it does look for similar resources. Also quoted from the Webster dictionary the meaning of quiescent state can be interpreted as inactivity, quiet and attached a copy of the page from the Webster dictionary.

2) As to argument (b) which states along the same line of argument (a). Again the quiescent state can be interpreted in many ways. Budde using waiting period can be easily read on quiescent

state. Also Budde also uses "delay period" for the all the nodes in the system and "delay period"

is also one of the interpretation of the quiescent state.

3) As to argument (c) Fisher states when the node fails to sense activity then there

reconfiguration takes place.

4) As to argument (d) Fischer uses the word time-out period in (col. 11, lines 1-29) which can

also be interpreted as quiescent state. The node take a time out time after that it performs the

reconfiguration.

5) As to applicant's argument in (e) Brown uses time out instead of quiescent state in (col. 7,

lines 1-19). The word quiescent itself is very broad and can be interpreted in many ways. The

independent claims are very broad and should be narrowed down.

Conclusion

22.   Any inquiry concerning this communication or earlier communication from the examiner

should be directed to Adnan Mirza whose telephone number is (703)-305-4633.

23.   The examiner can normally be reached on Monday to Friday during normal business

hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Mark Rinehart can be reached on (703)-305-4815. The fax for this group is (703)-

746-7239.

24.   The fax phone numbers for the organization where this application or proceeding is

assigned are as follows:

(703)-746-7239 (For Status Inquiries, Informal or Draft Communications, please label

"PROPOSED" or "DRAFT");

(703)-746-7239 (For Official Communications Intended for entry, please mark "EXPEDITED

PROCEDURE"),

(703)-746-7238 (For After Final Communications).

25.   Any Inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is (703)-305-3900.

Any response to a final action should be mailed to:

BOX AF

        Commissioner of Patents and Trademarks Washington, D.C.20231

Or faxed to:

        Hand-delivered responses should be brought to 4th Floor Receptionist, Crystal Park II,

2021 Crystal Drive, Arlington, VA 22202.

MEHMET B. GECKIL
PRIMARY EXAMINER

Adnan Mirza

Examiner

Art Unit 2152